

For: SEAT RECLINER MECHANISM INCORPORATING A ROTATABLE  
CAM CO-ACTING WITHIN AN INTERIORLY APERTURED PAWL

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**APPEAL BRIEF**

Mail Stop Appeal Brief  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Responsive to the Notice of Appeal filed June 28, 2006, Applicant presents the following

Appeal Brief:

**1.0 Real Party in Interest.**

The real party in interest in the present application is BAE Industries, Inc. having an address at 24400 Sherwood, Centerline, Michigan 48015, by assignment from Stephen Bruck and David Grable dated September 10, 2003 and recorded with the PTO.

A first Amendment was filed January 10, 2006, and responded to a first non-final Office Action on the merits dated October 13, 2006. That Amendment was entered and was responded to by a final rejection dated April 5, 2006. An Amendment after final rejection under 37 C.F.R. §1.116 was filed, on June 28, 2006, and contemporaneous with the filing of the Notice of Appeal. The Amendment after final was in response to the final rejection of April 5, 2006 and sought to have entered formal drawings including reference to the seat back and seat bottom (see Fig. 4 as revised) as requested by the Examiner. The amendment after final further incorporated requested revisions set forth on page 3, paragraph 2 of the Examiner's comments in the final rejection of April 5, 2006. Notwithstanding Applicant's attempt to comply with the Examiner's requests and to place the application in better form for appeal, an Advisory Action was issued on July 13, 2006 denying entry of the amendment after final.

## **5.0 Summary of Claimed Subject Matter.**

The present invention, defined in the claims involved in this appeal, is a seatback recliner mechanism 10 (page 4, line 12, Fig. 1) having a frame (plates 12 and 14, page 5, line 2, Fig. 1)

within the inner wall configuration, and so as to be completely contained within the interior aperture associated with the pawl. The cam exhibits a specified exterior configuration (this including circumferentially arrayed projections 102, 104 and 106, page 7, line 11, Fig. 2).

A lever 90 (page 6, line 22, Fig. 1) pivotally secures to the cam and extending from the frame. Upon rotating the cam in a first direction, and such that its exterior configuration engages at least one location along the inner wall configuration of the pawl, a bias is created between the upper surface arrayed and second plurality of serrations associated with the pawl and in abutting contact against the first plurality of serrations associated with the rounded bottom of the seat back arm (see page 7, lines 11 et seq.). The cam is subsequently rotated in a second direction to cause the pawl to hingedly disengage from abutting contact with the seatback arm, thus allowing for pivoting movement of the seat back arm (page 8, lines 4 et seq.).

Additional features include the seatback recliner mechanism including a main pivot pin 40 (page 5, line 19, Fig. 2) extending through aligning apertures 36 and 38 (page 5, line 17, Fig. 3) in the spaced-apart inner and outer plates. A main coil spring 42 (page 5, line 20, Fig. 3)

68 in the inner and outer plates. A pair of spacer bushings 16 and 18 (page 5, line 7, Fig. 3) engage additional and aligning pairs of apertures 20 & 22 and 24 & 26 in the inner 12 and outer 14 plates.

## **6.0 Grounds of Rejection to be Reviewed on Appeal.**

The issues presented for review are the Examiner's rejection of claims 1, 2, 5-9, 11 and 13 under 35 U.S.C. §102(b) as being anticipated by Choi (USPN 6,178,596). Claims 3 and 4 were rejected as obvious over 35 U.S.C. §103(a) over Choi in view of Yoshida et al. (USPN 5,749,624). Claim 10 was rejected under 35 U.S.C. §103 as obvious over Choi in view of Fast (USPN 6,412,849). Finally, claim 12 was rejected under 35 U.S.C. §103(a) as obvious over Choi.

## **7.0 Argument**

### **Claims 1, 2, 5-9, 11 and 13.**

Choi was newly cited against the above referenced claims in the Examiner's final rejection of April 5, 2006. Choi discloses, in relevant part, an actuating portion 400 (best understood to correspond to our cam 78) which is disposed within a latch portion 300 (further best understood to correspond to our pawl 58). The latch portion 300 and interiorly positioned

Clear distinguishing differences between applicants claims, namely independent claims 1 and 13 include the location of the initial downwardly arrayed serrations or teeth 32, defined along the arcuate surface of the seatback 28, and which meshingly interengage with the additional serrations 70 defined (upwardly) along an exterior location of the pawl. This construction differs both structurally and functionally from that shown in Choi, since the present invention, as again set forth in claims 1 and 13, requires the pawl to “hingedly” rotate between engaging and disengaging locations established between the opposing sets of teeth 32 and 70.

In contrast, Choi requires that its latch portion 300 (or lifting plate) vertically elevate or lower (and thereby to selectively engage or separate its described gears 340 and 340a established between the bottom face of the latch portion 300 and the inner arcuate surface of the sandwiching turning piece 210a). Accordingly, the latch portion 300 in Choi is not hingedly secured to the frame and in the fashion that the pawl element 58 is both recited in the claims and illustrated in the detailed description as secured to the seat frame member 14.

As to claim 2, Choi does not teach or suggest the secondary set of serrations (or

Accordingly, it is respectfully submitted that the 102(a) rejection over Choi is overcome in view of the above.

### **Claims 3 and 4**

Claims 3 and 4 further recite the coacting pluralities (first, second and third) of projections established between the inner circumferential surface of the pawl aperture and the outer opposing surfaces of the rotatable cam element. Simply put, the latch portion 300 (roughly our pawl) and inner disposed actuation portion 400 (e.g. Choi's cam) include only a pair of points of contact (see at 420 and 420a in exploded view of Fig. 2) established at opposite upper and lower ends of the portion 400 and which are disclosed as coacting with inclined surfaces defined in upper and lower ends of the rectangular shaped hole (see column 3, lines 55, et seq. in Choi), presumably referencing the inner generally rectangular shaped configuration of the portion 300 within which the rotating portion 400 seats.

Furthermore, the slidable inner pieces 20 and 21 in Yoshida also do not include first, second and third coacting locations (they rather include only two and as referenced at 31 and 32

by evidence, as shown by some objective teaching in the prior art or by knowledge generally available to one of ordinary skill in the art that would have led that individual to combine the relevant teachings of the references to arrive at the claimed invention, see again *In re Fine*, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988).

Rejections based on §103 must rest on a factual basis with these facts being interpreted without hindsight reconstruction of the invention from the prior art. The Examiner may not, because of doubt that the invention is patentable, resort to speculation, unfounded assumption or hindsight reconstruction to supply deficiencies in the factual basis for the rejection. Rather, and when satisfying the burden of showing obviousness of the combination, the Examiner can show some objective teaching in the prior art or knowledge generally available to one of ordinary skill in the art which would lead that individual to combine the relevant teachings of the references. *In re Lee*, 61 USPQ2d 1430, 1434 (Fed. Cir. 2002), citing *In re Fritch*, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992). Broad conclusory statement regarding the teaching of multiple references, standing alone, are not “evidence”; *In re Dembiczak*, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999).

Fast discloses spacer bushings established between inner and outer spaced apart support plates associated with a seat frame structure. However, Fast does not teach or suggest a pawl and cam arrangement as set forth in claims 1 and 13, either individually or in combination with Choi. Furthermore, the housing construction of Choi (reference again being made to the side profile view of Fig. 5) does not otherwise teach or suggest combining the spaced apart support plate and bushing structure of Fast, and such that claim 10 would be obvious.

### Claim 12

As previously referenced in discussion of claim 8, the elastic spring 510 in Choi reference does not secure to an outer plate such as illustrated and claimed in the present application.

Respectfully submitted,



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said seatback arm including a lower arcuate surface upon which are defined a first plurality of serrations;

a pawl comprising a generally elongated body including a first end hingedly secured to said frame and incorporating a second plurality of serrations, said pawl further includes an interior aperture defined by an enclosed inner wall configuration;

a cam rotatably secured to said frame in seating fashion within said inner wall configuration and so as to be completely contained within said interior aperture associated with said pawl, said cam exhibiting a specified exterior configuration;

a lever pivotally secured to said cam and extending from said frame; and

said cam being rotated in a first direction, such that its exterior configuration engages at least one location along said inner wall configuration of said pawl and to bias said second plurality of serrations in abutting contact against said first plurality of serrations, said cam being rotated in a second direction to cause said pawl to hingedly disengage from abutting contact with said seatback arm.

4. The seatback recliner mechanism as described in claim 3, each of said pawl and cam further comprising first, second and third co-acting projections.

5. The seatback recliner mechanism as described in claim 1, said frame further comprising an inner plate and a spaced apart outer plate sandwiching therebetween said pawl, cam and pivotally secured seatback.

6. The seatback recliner mechanism as described in claim 5, further comprising a main pivot pin extending through aligning apertures in said spaced-apart inner and outer plates, a main coil spring securing to an exterior face of said outer plate and biasing said seatback arm in a forwardly pivoting direction.

7. The seatback recliner mechanism as described in claim 5, further comprising a

9. The seatback recliner mechanism as described in claim 5, further comprising a pawl rivet seating through an aperture in said pawl defining said hinged connection, said pawl rivet seating through additional and aligning apertures in said inner and outer plates.

10. The seatback recliner mechanism as described in claim 5, further comprising a pair of spacer bushings engaging additional and aligning pairs of apertures in said inner and outer plates.

11. The seatback recliner mechanism as described in claim 6, further comprising an extending end of said main coil spring engaging a projecting end of a rivet extending between top rear locations associated with said inner and outer plates.

12. The seatback recliner mechanism as described in claim 8, further comprising an extending end of said secondary coil spring engaging an angled projection associated with said

said seatback arm including a lower arcuate surface upon which are defined a first plurality of serrations;

a pawl comprising a generally elongated body hingedly secured to said frame and incorporating a second plurality of serrations extending along an upper arcuate surface in substantially opposing fashion relative to said first plurality of serrations, said pawl further includes an interior aperture defined by an enclosed inner wall configuration exhibiting a first plurality of projections;

a cam rotatably secured to said frame in seating fashion within said inner wall configuration and so as to be completely contained within said interior aperture associated with said pawl, said cam exhibiting a specified exterior configuration exhibiting a second plurality of projections which co-act with said first plurality of projections associated with said pawl;

a lever pivotally secured to said cam and extending from said outer plate; and

said cam being rotated in a first direction, such that its exterior configuration engages said inner wall configuration of said pawl and to bias said second plurality of serrations in



